

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 07/13/2017

Reviewed on 07/13/2017

1 Identification

- **Product identifier**
- **Trade name:** Verification Standard 530 nm / Reference Standard 2,0 mg/l, 0,2 mg/l, 0,5 mg/l, 1 mg/l, 4 mg/l
- **Catalogue number:**
215653, 215660-530, 215650-530, (4)275600, (4)215600, (4)205600, 215644, 215645, 215646, 215648, 215649, 215659
- **Application of the substance / the mixture:** Coloured Standard Solution for calibration purposes
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

2 Hazard(s) identification

- **Classification of the substance or mixture** The product is not classified as hazardous.
- **Label elements**
- **GHS label elements** none
- **Hazard pictograms** none
- **Signal word** none
- **Hazard statements** none
- **Other hazards** No further relevant information available.

* 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** aqueous solution
- **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

CAS: 67-68-5	dimethyl sulfoxide	Flam. Liq. 4, H227	2.5-5%
EINECS: 200-664-3			
RTECS: PV 6210000			

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes (at least 15 min) under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed**
Causes mild skin irritation.
after resorption:
headache

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sickness
fatigue

· **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **Advice for emergency responders:** Protective equipment: see section 8
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, universal binders).
Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
- **Advice on safe handling:** No special precautions are necessary if used correctly.
- **Hygiene measures:**
The usual precautionary measures for handling chemicals should be followed.
Avoid contact with the skin.
Wash hands before breaks and at the end of work.
Do not eat, drink or smoke when using this product.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in unopened original receptacles.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Protect from frost.
Protect from heat and direct sunlight.
Protect from exposure to the light.
Store in the dark.
Protect from humidity and water.
- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)

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· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

CAS: 67-68-5 dimethyl sulfoxide

WEEL (USA) Long-term value: 250 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Engineering measures:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.

· **Personal protective equipment:**

· **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.

· **Recommended filter device for short term use:** Filter A

· **Protection of hands:**

Avoid direct contact with the chemical/ the product/ the preparation by organizational measures.

Wear gloves in case of breakage / leakage.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

Chloroprene rubber, CR

Recommended thickness of the material: ≥ 0.5 mm

· **Penetration time of glove material**

Value for the permeation: Level ≤ 1 (10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **As protection from splashes gloves made of the following materials are suitable:**

Natural rubber, NR

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≤ 1 (10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Wear safety glasses in case of breakage / leakage.

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment:**

Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Appearance:**

Form / Physical state: Fluid

Color: Pink

· **Odor:** Odorless

· **Odor threshold:** Not applicable.

· **pH-value at 20°C (68 °F):** 6

· **Melting point/freezing point:** Not determined.

· **Initial boiling point and boiling range:** Not determined.

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not self-igniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Flammability or explosive limits:**

Lower: Not applicable.

Upper: Not applicable.

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· Oxidizing properties:	none
· Vapor Pressure:	Not determined.
· Density at 20°C (68 °F):	1.01 g/cm ³ (8.428 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not determined.
· Evaporation rate:	Not determined.
· Solubility(ies) Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	Not determined.
· Solvent content: Organic solvents: Water: Solids content:	< 5 % > 95 % < 1 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions** No further relevant information available.
- **Conditions to avoid** Strong heating (decomposition)
- **Incompatible materials:**
 metals
 various plastics
- **Hazardous decomposition products:** see section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:

CAS: 67-68-5 dimethyl sulfoxide

Oral	LD50	14,500 mg/kg (rat) (Gestis)
Dermal	LD50	40,000 mg/kg (rat) (RTECS)
Inhalative	LC ₀	>5.33 mg/l (rat) (4h, OECD 403) (Merck)

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.

· Information on components:

CAS: 67-68-5 dimethyl sulfoxide

Irritation of skin	OECD 404	(rabbit: slight irritation)
Irritation of eyes	OECD 405	(rabbit: slight irritation)

- **Sensitization:** Based on available data, the classification criteria are not met.

· Information on components:

CAS: 67-68-5 dimethyl sulfoxide

Sensitization	OECD 406	(guinea pig: negative) (EPA OPP 81-6: Guinea pig maximisation test)
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· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Other information: see section 8 / 15

· Synergistic Products: None

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): The following statements refer to the mixture:

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

· **Carcinogenicity** Based on available data, the classification criteria are not met.

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

· Information on components:

CAS: 67-68-5 dimethyl sulfoxide

OECD 471 (negative)
(Salmonella typhimurium)

OECD 473 (negative)

OECD 474 (negative)

· Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

DMSO readily penetrates skin and may carry other dissolved chemicals into the body.

CAS 67-68-5 is skin-resorbing.

12 Ecological information

· Toxicity

· Aquatic toxicity:

CAS: 67-68-5 dimethyl sulfoxide

LC50 >25,000 mg/l/48h (zebrafish) (OECD 203)

EC50 24.6 mg/l/48h (Daphnia magna) (OECD 202)

EC50 17,000 mg/l/72 h (Pseudokirchneriella subcapitata) (OECD 201)

· Bacterial toxicity:

CAS: 67-68-5 dimethyl sulfoxide

EC10 7,100 mg/l (Pseudomonas putida) (16 h)
(IUCLID)

· Persistence and degradability

CAS: 67-68-5 dimethyl sulfoxide

OECD 301 D 31 (.) (Closed Bottle Test)

· Bioaccumulative potential

CAS: 67-68-5 dimethyl sulfoxide

log Pow ≤1.35 (.) (experimental)
(Merck)

· **Mobility in soil** No further relevant information available.

· **Other adverse effects** Avoid transfer into the environment.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· UN-Number	
· DOT, IMDG, IATA	none
· UN proper shipping name	
· DOT, IMDG, IATA	none
· Transport hazard class(es)	
· DOT, IMDG, IATA	
· Class	none
· Packing group	
· DOT, IMDG, IATA	none
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· **Section 355 (Extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

CAS No. 6381-92-6 is listed under CAS No. 60-00-4 (parents)

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **New Jersey Right-to-Know List:**

CAS: 67-68-5 dimethyl sulfoxide

CAS: 1310-73-2 sodium hydroxide

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· New Jersey Special Hazardous Substance List:		
CAS: 67-68-5	dimethyl sulfoxide	TE, F2
CAS: 1310-73-2	sodium hydroxide	CO, R1
· Pennsylvania Right-to-Know List:		
CAS: 1310-73-2	sodium hydroxide	
· Pennsylvania Special Hazardous Substance List:		
CAS: 1310-73-2	sodium hydroxide	E
· EPA (Environmental Protection Agency)		
None of the ingredients is listed.		
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients is listed.		
· US-VOC content: 37.7 g/l / 0.31 lb/gal		
· Information about limitation of use: Not required.		
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.		

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H227 Combustible liquid.

· Date of preparation / last revision 07/13/2017 / 9

· Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ACGIH[®] - American Conference of Governmental Industrial Hygienists

•A1 - Confirmed human carcinogen

•A2 - Suspected human carcinogen

•A3 - Confirmed animal carcinogen with unknown relevance to humans

•A4 - Not classifiable as a human carcinogen

•A5 - Not suspected as a human carcinogen

IARC - International Agency for Research on Cancer

•Group 1 - Carcinogenic to humans

•Group 2A - Probably carcinogenic to humans

•Group 2B - Possibly carcinogenic to humans

•Group 3 - Not classifiable as to carcinogenicity to humans

•Group 4 - Probably not carcinogenic to humans

NTP - National Toxicology Program, U.S. Department of Health and Human Services

•Group K - Known to be Human Carcinogens

•Group R - Reasonably Anticipated to be Human Carcinogens

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 4: Flammable liquids – Category 4

· Sources Data arise from safety data sheets, reference works and literature.

· * Data compared to the previous version altered.